

System Water Audits



Most water systems “produce” more water than is sold. That is, more water enters the system than service meters register as being delivered. The difference between water “in” and water “out” is called unaccounted-for water. By first identifying and then fixing the causes of unaccounted-for water, water systems can:

- Lower electricity bills and other operating costs
- Lower the risk of backflows and system liability
- Potentially expand service connections
- Reduce wear on equipment
- Set an “efficient water use” example with customers.

Reducing the amount of unaccounted-for water is one of the most important ways a system can improve water-use efficiency.

What Is a System Water Audit?

A system water audit is a management tool that measures the volume of water that enters a system and the volume that leaves the system. A system audit is much broader than a residential water audit. An audit shows the operational efficiency of a water system and where water losses may be occurring.

A system water audit involves:

- Collecting source and service meter records for the review period
- Calculating how much water entered and left the system during the review period
- Testing meters for accuracy
- Estimating the volume and cost of unaccounted-for water
- Analyzing the data and developing an action plan

What Is Unaccounted-for Water?

Errors

- Meter inaccuracy
- Human (meter reading, accounting inaccuracies)

Loss

- Theft (unmetered users)
- Leaks
- Reservoir overflow

Authorized, unmetered uses

- Firefighting
- Street cleaning
- Water main flushing
- Construction water

*For assistance with
water use efficiency
planning, contact
your regional water
conservation specialist.*

**Northwest
Regional Office -
253-395-6769**

**Southwest
Regional Office -
360-664-2543**

**Eastern
Regional Office -
509-456-5067**

Where To Get More Information

An Introduction to Water Loss and Leak Detection, Evergreen Rural Water of Washington Association

Water Audits Introduction, Training Guide TGR-12-95, National Rural Water Association

Water Audits and Leak Detection, Manual #36, American Water Works Association

Water Conservation Guidebook For Small and Medium-Sized Utilities, American Water Works Association, Pacific Northwest Section